

WHAT IS CLAIMED IS:

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1. A rotor spinning device comprising a contactless, passive, radial bearing for the spinning rotor and a damping device for damping radially directed oscillations of the spinning rotor, the damping device comprising a sensor arrangement, a control arrangement and an operating arrangement, the operating arrangement having at least two stationary magnetic operating elements arranged to act at least at one active site directly on a magnetic element fixedly connected with the rotor shaft for rotation therewith, the rotating magnetic element comprising an operative element of the passive bearing of the spinning rotor.

2. The rotor spinning device in accordance with claim 1, characterized in that the sensor device at the active site comprises at least two sensor elements for detecting radial position deviations of the rotor shaft, and the sensor elements and the operating elements at the active site are arranged in a plane extending vertically in respect to the axis of rotation.

3. The rotor spinning device in accordance with claim 1, characterized in that the operating elements are arranged with an angular offset in respect to the sensor elements of the active site.

4. The rotor spinning device in accordance with claim 2, characterized in that the two operating elements are arranged angularly offset by 90 degrees in respect to each other, and the two sensor elements are arranged angularly offset by 90 degrees in respect to each other.

5. The rotor spinning device in accordance with claim 1, characterized in that an additional operating element is assigned to each operating element and is located diametrically opposite in respect to the axis of rotation, and that each operating element and the additional operating element act in the same direction and with an essentially equal force on the rotating magnetic element.

6. The rotor spinning device in accordance with claim 1, characterized in that the rotating magnetic element comprises a permanent magnet ring enclosing the rotor shaft, and the operating elements are arranged at an axial distance in front of the permanent magnet ring.

7. The rotor spinning device in accordance with claim 1, characterized in that the control device comprises elements for an exclusively capacitive coupling of the signals generated by the sensor elements.